



BUNDESAMT FÜR  
SCHIFFFAHRT  
UND  
HYDROGRAPHIE

Notified Body authorised by  
BSH 0800-S23/4822:013

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Certificate No: LR2387043MB

Issue Date: 01/03/2023

Expiry Date: 29/02/2028

# EC Type Examination (Module B) Certificate

## USCG-EU MRA

This is to certify that:

LLOYD'S REGISTER Marine Deutschland GmbH (LRMD), designated as a "notified body" based on the notification of the Federal Maritime and Hydrographic Agency of Germany, did undertake the relevant type approval procedures for the type of equipment identified below which was found to be in compliance with the requirements of Marine Equipment Directive (MED) 2014/90/EU and the valid Commission Implementing Regulation (EU) in force indicating design, construction and performance requirements and testing standards for marine equipment, subject to the conditions below and the attached Schedule which also forms part of this Certificate.

<b>Manufacturer</b>	<b>Roxtec International AB</b>
<b>Address</b>	Box 540, S-37123 Karlskrona, Sweden
<b>Reference</b>	Marine Equipment Directive (MED) 2014/90/EU, Regulation (EU) 2022/1157
<b>Regulation Item (No. &amp; Item Designation)</b>	MED/3.26a Penetrations Through 'A' Class Divisions: Electric Cable Transits MED/3.26b Penetrations Through 'A' Class Divisions - Pipe, Duct, Trunk Etc. Penetrations MED/3.37a Penetrations Through Fire Resisting Divisions on High Speed Craft - electric cable transits MED/3.37b Penetrations Through Fire Resisting Divisions on High Speed Craft - Pipe, Duct, Trunk Etc. Penetrations
<b>Product Type</b>	CABLE and PIPE PENETRATION
<b>Product Description</b>	Multi Cable and Pipe Penetration Types: "S, R, RS, and RS PPS/S" for use in fibre reinforced composite bulkheads and decks
<b>Specified Standard</b>	IMO Res. MSC.307(88) (2010 FTP Code) Annex 1 Part 3 IMO Res. MSC.307(88) (2010 FTP Code) Annex 1 Part 11. IMO/MSC/Circ. 1488
<b>Trade Name</b>	"S, R, RS and RS PPS/S "

Lloyd's Register Marine Deutschland GmbH, Überseeallee 10, D-20457 Hamburg, Germany.  
A member of the Lloyd's Register group

**Keith Taylor**

Team Lead Fire & Safety  
For and on behalf of Lloyd's Register Marine Deutschland GmbH (2923)

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## EC Type Examination (Module B) Certificate

The attached Design Appraisal Document (schedule) forms part of this certificate. This certificate remains valid unless suspended, expired or withdrawn, provided the conditions in the attached schedule are complied with and the equipment remains satisfactory in service.

This certificate will not be valid if the manufacturer makes any changes or modifications to the approved type of equipment, which have not been notified to and agreed with the notified body named on this certificate. The manufacturer should notify LRMD of any modification or changes to the equipment in order to obtain a valid Certificate.

This equipment is covered by the scope of the "Agreement between the European Community and the United States of America on Mutual Recognition of Certificates of Conformity for Marine Equipment" signed on 27 February 2004 and amended by Decision No.1/2018 dated 18 February 2019 according to U.S. Coast Guard approval category USCG Module B number:

164.138/EC2923

A U.S. Coast Guard approval number will be assigned to the equipment when the production module has been completed and will appear on the production Module certificate (Module D, E or F).

Should the specified regulations or standards be amended during the period of validity of this certificate, the product is to be re-approved prior being placed on the market and on board vessels to which the amended regulations or standards apply.

The Mark of Conformity may only be affixed to the above type approved equipment and a Manufacturer's Declaration of Conformity issued when the production-control phase module (D, E, or F) of ANNEX II of the Directive is fully complied with and controlled by a written inspection agreement with a notified body.

Lloyd's Register Marine Deutschland  
GmbH, Überseeallee 10, D-20457  
Hamburg, Germany.  
A member of the Lloyd's Register group

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## ATTACHMENT TO EC TYPE EXAMINATION (MODULE B) CERTIFICATE No. LR2387043MB

The undernoted documents have been appraised for compliance with the relevant requirements of International Conventions and European Union legislation for the EC Type Examination of Marine Equipment for use on Merchant Ships Registered in the European Economic Area.

This Design Appraisal Document (schedule) forms part of the Certificate.

### Test Reports

Marine Advanced Research Centre, Gdansk, Poland Test reports RS-20\_B\_253\_E dated 9 July 2020, RS-20\_B\_254\_E dated 4 August 2020, RS-20\_B\_341\_E dated 22 October 2020, RS-20\_B\_417\_E dated 19 January 2021 and RS-20\_B\_426\_E dated 23 November 2020.

Witness reports N142177N dated 1 September 2020, N142846G dated 2 November 2021 and N141XE2C dated 19 February 2020

### Conditions of Certification

- For use in fibre reinforced composite divisions.
- Sleeve/frame types SFHM, SRC, SL, SLFRS and SLFR composed of aluminium/steel or GRP with penetrations seal type S, R, RM, RS and RS PPS/S.
- Tables below give key parameters for installation in A-60 fibre reinforced composite bulkheads and decks.

Fiber Reinforced Composite Bulkheads A-60					
Sleeve/Frame type	Sleeve/Frame material	Penetration size	Cable/Pipe	Cable/Pipe Outer diameter (OD) [mm]	Drawing Reference
SL	GRP	R 50 - R 200	Single/Multi- Cable	Up to 82	S1559171
SL	GRP	RS 25 - RS 125	Single Cable	Up to 90	S1559244
SL	GRP	RS 25 - RS 150	Steel/Titanium Pipe	6-114	S1559174
SL	GRP	RS 25 - RS 150	Copper Pipe	6-108	S1559174
SL	GRP	RS PPS/S 50 - RS PPS/S 150	Thermoplastic Pipe*	16-110	S1559249
SL	GRP	RS PPS/S 50 - RS PPS/S 125	PE/ALU/PE Pipe	16-75	S1559249
SRC	GRP	4x1 - 6x1	Single/Multi- Cable	Up to 90	S1559156
SRC	GRP	4x1 - 6x1	Steel/Titanium Pipe	6-30	S1564191
SLFR	Aluminium/Steel	R 50 - R 200	Single/Multi- Cable	Up to 82	S1559126
SLFRS	Aluminium/Steel	RS 23 - RS 150	Steel Pipe	6-114	S1559205
SLFRS	Aluminium/Steel	RS 23 - RS 150	Copper Pipe	6-108	S1559205
SLFRS	Aluminium/Steel	RS PPS/S 31 - RS PPS/S 150	Thermoplastic Pipe*	16	S1559252
SLFRS	Aluminium/Steel	RS PPS/S 31 - RS PPS/S 125	PE/ALU/PE Pipe	16-75	S1559252
SLFRS	Aluminium/Steel	RS 50 - RS 450	Fiberglass Composite Pipe	30-360	S1559245
SFHM	Aluminium/Steel	1x1 - 8x1	Single/Multi- Cable	Up to 82	S1559116

\*Thermoplastic pipe types: (PB, PP/PPR/PPML/PPFR, PE/HDPE & PVC/uPVC/cPVC)

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Fiber Reinforced Composite Decks A-60					
Sleeve/Frame type	Sleeve/Frame material	Penetration size	Cable/Pipe type	Cable/Pipe Outer diameter (OD) [mm]	Drawing Reference
SL	GRP	R 50 - R 200	Single/Multi- Cable	Up to 82	S1559171
SL	GRP	RS 25 - RS 125	Single Cable	Up to 90	S1559244
SL	GRP	RS 25 - RS 150	Steel/Titanium Pipe	6-114	S1559174
SL	GRP	RS 25 - RS 150	Copper Pipe	6-108	S1559174
SL	GRP	RS PPS/S 50 - RS PPS/S 150	Thermoplastic Pipe*	16-110	S1559249
SL	GRP	RS PPS/S 50 - RS PPS/S 125	PE/ALU/PE Pipe	16-75	S1559249
SRC	GRP	4x1 - 6x1	Single/Multi- Cable	Up to 82	S1559156
SLFR	Aluminium/Steel	R 50 - R 200	Single/Multi- Cable	Up to 82	S1559126
SLFRS	Aluminium/Steel	RS 23 - RS 150	Steel Pipe	6-114	S1559205
SLFRS	Aluminium/Steel	RS 23 - RS 150	Copper Pipe	6-108	S1559205
SLFRS	Aluminium/Steel	RS PPS/S 31 - RS PPS/S 150	Thermoplastic Pipe*	16-110	S1559252
SLFRS	Aluminium/Steel	RS PPS/S 31 - RS PPS/S 125	PE/ALU/PE Pipe	16-75	S1559252
SLFRS	Aluminium/Steel	RS 50 - RS 450	Fiberglass Composite Pipe	30-360	S1559245
SFHM	Aluminium/Steel	1x1 - 8x1	Single/Multi- Cable	Up to 82	S1559116

\*Thermoplastic pipe types: (PB, PP/PPR/PPML/PPFR, PE/HDPE & PVC/uPVC/cPVC)

4. Sample penetrations underwent hydrostatic and pneumatic pressure testing as follows;

Penetration	Pneumatic Pressure (Helium gas)	Hydrostatic Pressure
SRC R20 GRP	1.5 bar	3 bar
R 50	1.5 bar	3 bar
R 200	1.5 bar	3 bar
RS 25	1.5 bar	3 bar
RS 200	1.5 bar	3 bar
RS PPS/S 50	1.5 bar	3 bar
RS PPS/S 150	1.5 bar	3 bar

- Penetrations are suitable for use in fibre reinforced composite bulkheads and decks with a heat deflection temperature of 78°C or above.
- Production items of the subject equipment are to be manufactured in accordance with either an approved Production Quality Assurance system (Module D), a Product-Quality assurance system (Module E) or a Product Verification Process (Module F). The wheelmark cannot be affixed to the product until a conformity assessment module is in place.
- Each item, batch or lot of the equipment is to be issued with a "Declaration of Conformity" and have the "Mark of Conformity" affixed after a conformity assessment module is in place.
- The manufacturer shall keep a copy of the EC type-examination certificate, its annexes and additions together with the technical documentation at the disposal of the national authorities for at least 10 years after the wheel mark has been affixed on the last product manufactured and in no case for a period shorter than the expected life of the marine equipment concerned.

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**Place of Production**

Roxtec International AB  
Box 540  
S-37123 Karlskrona  
Sweden

Keith Taylor  
Team Lead, Fire & Safety  
Fire & Safety, Statutory Discipline Team  
UK&I Technical Support Office, Marine & Offshore  
**For and on behalf of Lloyd's Register Marine Deutschland**  
**LRMD EC Distinguishing No. 2923**

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